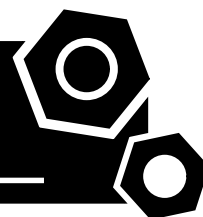


**Generator set**

**Sound-proof type**

**GMS42CS-AU**

# **SPECIFICATIONS**



## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- ISO8528-5:2005
- AS 3000-2018
- AS 3010-2017

### Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 50°C. The coolant heater is needed when the temperature is below 5°C
- Humidity: Less than 90%.
- Altitude: Below one thousand (1000) meters above sea level.

### Factory Inspection

- Inspection items.
- Protection devices working test.
- Starting ability in normal temperature.
- 50% rated power load moment capability.
- Voltage deviation and speed variation: 0%, 25%, 50%, 75%, 100%, 110% Load.

### Painting Process

- Painting process and colors are based on the manufacturer's standard.
- The customer could also choose the color which the manufacturer offers.

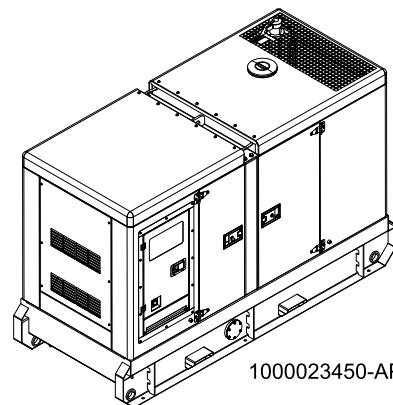
## 2 General Features

- Cummins engine 4BT3.9G1
- Close coupled to a Stamford alternator PI144K
- Microprocessor control module PLC-7420
- ABB main circuit breaker: 80A
- Rotate speed governor: Mechanical governor
- Excitation System: Self Excited SHUNT
- A.V.R. Model: AS480
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- Remote run connector

- 2x12V/70AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Oil pump on the engine
- Non-returning valve for fuel inlet hose of the engine
- Steel base frame with forklifts
- Vibration isolators between the engine/alternator and base frame
- Dry type air
- Base fuel tank for 21 hours running
- Drain points for fuel tank
- Breather valve for fuel tank
- Operation Manual /

## 3 Equipment Specification

### General technical data

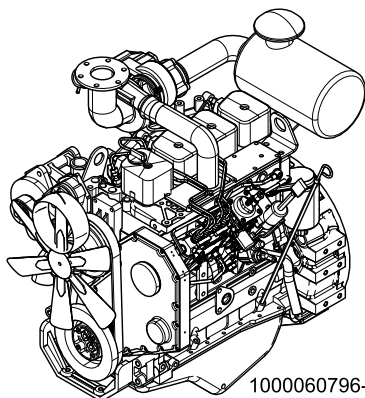


1000023450-AP1-D4

Model..... GMS42CS-AU  
Structure type ..... R  
Tank capacity..... 270L  
Dry weight..... 1406kg  
Noise level @7m ..... 67.5dBA  
Dimensions L×W×H..... 2588x1115x1710mm  
Standby Power ..... 47kVA/37kW  
Prime Power ..... 43kVA/34kW  
Voltage/Ampere ..... 415V/59.8A

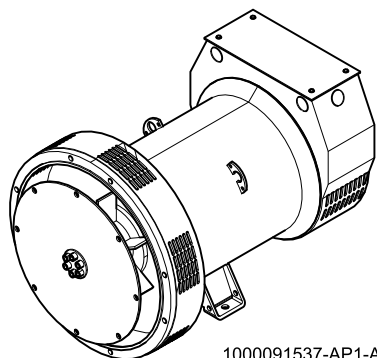
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	5.0	7.5	10.0	13.0	14.0

## Dck Yf 'GnghYa



1000060796-S-AP1-B7

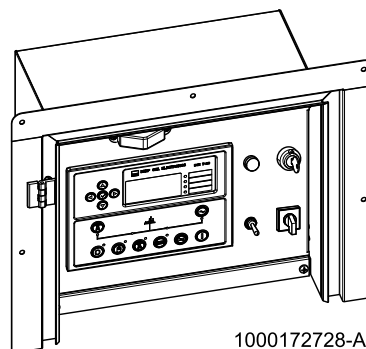
Engine Manufacturer/Brand.....	Cummins
Engine Model.....	4BT3.9G1
Dimensions L×W×H.....	N/A
Dry Weigh (approx.) .....	321kg
Number of Cylinders.....	4
Bore.....	102mm
Stroke.....	120mm
Displacement.....	3.9L
Compression Ratio.....	N/A
Type of injection.....	Direct injection
Intake System.....	Turbo charged
Intake Resistance.....	6.2kPa
Cooling System .....	Water cooled
Fan .....	Pusher
Battery Voltage .....	12/24V
Type of Fuel.....	No.2 or ASTM D2
Type of Oil .....	API CD/SE or CCMCD4
Oil Capacity .....	10.9L
Type of Coolant .....	Glycol mixture
Coolant Capacity .....	20.8L
Back Pressure .....	≤10.1kPa
Standby Power .....	40kW
Prime Power .....	36kW
Fuel Consumption(100%load).....	214g/kW.h



1000091537-AP1-A1

Alternator Manufacturer/Brand .....	Stamford
Alternator Model .....	PI144K
Exciter.....	Brushless
Cooling Fan .....	Plastic
Windings.....	100% copper
Insulation Class .....	H
Winding Pitch.....	2/3
Terminals .....	12
Drip Proof .....	IP23
Altitude.....	≤1000m
Overspeed .....	2250rpm
Air Flow.....	0.135m³/s(50HZ),0.165m³/s(60HZ)
Voltage Regulation .....	±1.0%
Total harmonic TGH / THCat no load < 1.5 % - on load < 5%	
Telephone Interference.....	THF<2%;TIF<50

## PLC-7420 Control System



1000172728-AP1-C4

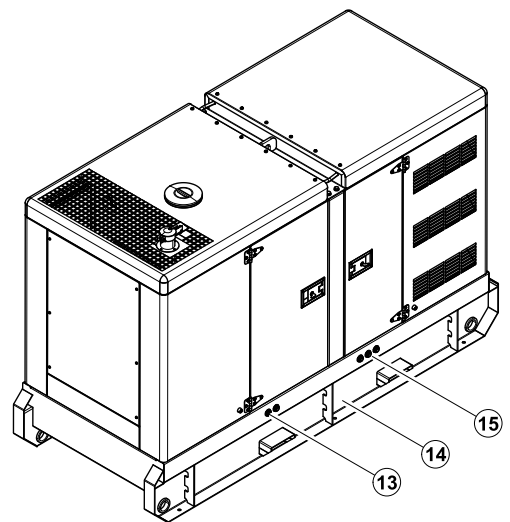
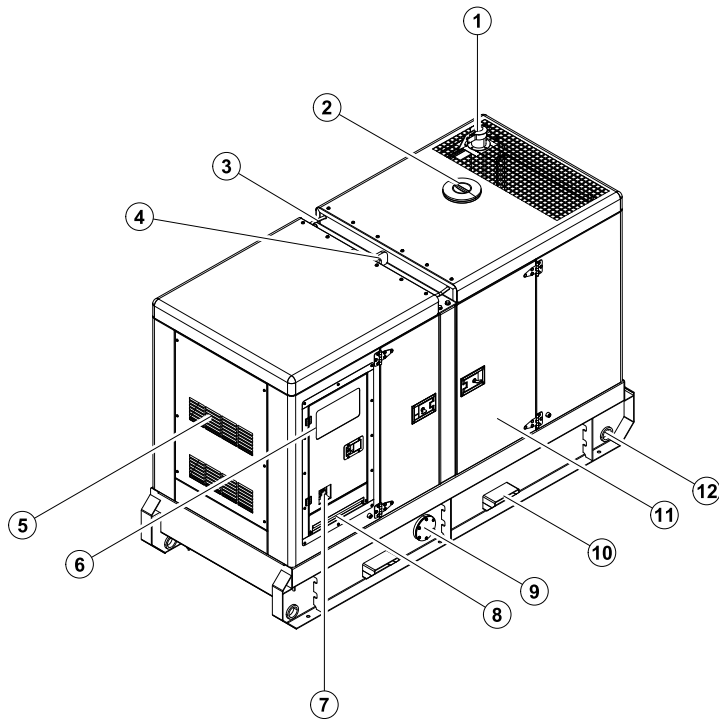
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the mains supply and genset
- Indicating operation status, fault conditions, all parameters and alarms
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual, automatic and remote work mode selectable
- Real time clock for time and date display, overall runtime display, 250 log entries
- Overall power output display
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- Communication with PC via RS485 OR RS232 interface, using MODBUS protocol

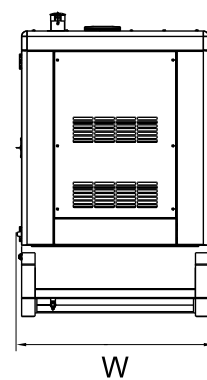
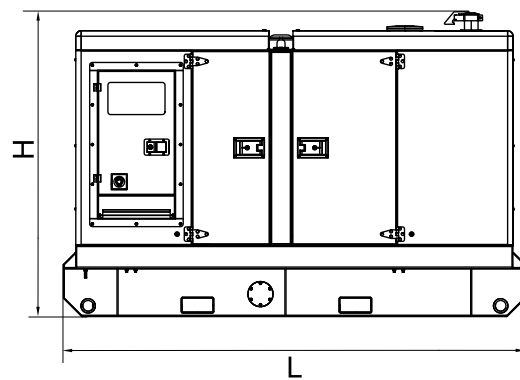
# 4 Overall Dimensions

1000023450-DR1-D4

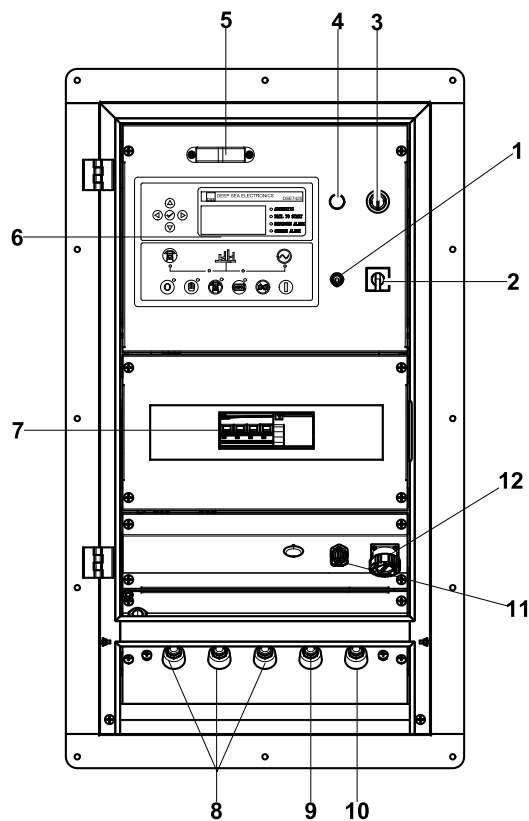
Dry weight	1398kg
Fuel tank capacity	270L
Dimensions L x W x H	2588x1081x1709mm



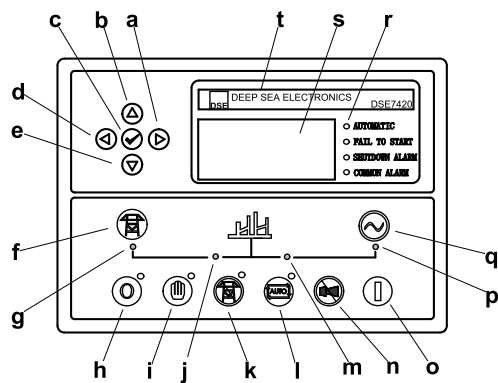
- ⑧ Cable trench
- ⑦ Emergency stop switch
- ⑥ Control cabinet
- ⑤ Air inlet
- ④ Lifting lug
- ③ Roping lug
- ② Coolant inlet
- ① Exhaust gas outlet
- ⑮ Coolant/Oil drain hose fitting
- ⑭ Base frame
- ⑬ External fuel inlet/return hose fitting
- ⑫ Tie down
- ⑪ Access door
- ⑩ Fork lift channel
- ⑨ Fuel drain



# 5 Control System



**Control & Field wiring cabinet**



**Control module**

1000172728-IT1-C4

Ref.	Description
1	Control cabinet lamp switch
2	Mains input changeover switch
3	Charge indicator
4	Key switch
5	Control cabinet lamp
6	Control module
7	Main circuit breaker
8	Live wire terminals
9	Neutral wire terminal
10	Ground wire terminal
11	Remote communication interface
12	ATS communication interface

a	Button (next page)
b	Button (increase value / previous item)
c	Button (accept)
d	Button (previous page)
e	Button (decrease value / next item)
f	Button (transfer the load to the mains supply, when in Manual mode only)
g	Mains supply available LED
h	Stop / Reset button
i	Manual button (Manual control mode)
j	Mains supply on load LED
k	Test button (Test mode)
l	Auto button (Auto mode)
m	Genset on load LED
n	Mute/Lamp test button
o	Start button (Manual)
p	Genset available LED
q	Button (transfer the load to the genset, when in Manual mode only)
r	Alarm LED (4 alarm items)
s	LCD display
t	Control module name

1000023450-F5-E
10.2020